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ABSTRACT

The following essays on communication are presented: communication as a condition of survival, communication for special purposes, the means of transmission of communication, communication within social and economic structures, the teaching of communication through the press, the teaching of modern languages, communication as a point of departure, research at the Centre for Applied Study in Communication, individual culture in 1976, and the United States in 1976. One of the points is that learning languages for special purposes in the present-day technological world makes it necessary to learn the conventions corresponding to the particular field. Languages for special purposes are only taught to people who already know their native language and are fluent in the foreign language concerned. In communicating a message, it is not possible to grasp the measure of a given message without a clear understanding of the procedures used to transmit it. Communication between two or more people, telephone, radio, television, and the cinema are discussed. Horizontal and vertical communication, and space and time as the two main elements involved in the receipt and examination of a message, are discussed. It is suggested that communication requires the right psychological approach, adequate knowledge, and control of the expressions of the technical language. (SW)

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Collection "LA PENSÉE DU VINGTIÈME SIÈCLE"

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Centre d'Etudes Appliquées
à la Communication dans les
Langages de Spécialité

E.N.S.C.P.
11 rue Pierre et Marie Curie - 75005 Paris

Communication

Translated by Ross Charnock

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Communication as a condition of survival

Before examining the conditions of communication in general it is first necessary to note that we are interested in three particular kinds of communication. These are oral communication, written communication and communication through signs or symbols.

Many conditions must be fulfilled before the transmission of a message can be perceived, then understood and before the expected echo can be received. This problem is particularly acute in some specific fields with which the author has been associated. Thus, the transmission of ciphered messages in the army causes seriousproblems of precision, which are accentuated by the concision of such messages and no ambiguity can be tolerated as it might have disasterous consequences. What the author learnt as a signals officer has been of use to him throughout his career. As well as the necessities just mentioned, we must also consider the psychological effort which is indispensable to the compreension of a situation, and intuition as regards a given or supposed situation, when the signals officer, using multiple probabilities, must decode a message without knowing the code. That is a long, very interesting job and excellent training for the deep study of any message.

The problem of language-concept correspondence arises here more than elsewhere.

Another field in which this criterium plays an important part is that of aviation. The author became aware of this while teaching at the National School of Civil Aviation. Since that time, however, the amount of air traffic has grown considerably, and the risks of mistaken interpretation of messages have become more serious. The part played by linguistic con-

ventions in the transmission of messages is more devious in this case than in any other. We shall come back to this when considering 'group theory', which is, at the present time, the only way to approach the problem of communication. Nevertheless, these conventions require an effort to interpret the intention on the speakers' part just as much as in less technical language. To demonstrate this we need only consider the expression 'all clear' which, if taken out of its precise context and misinterpreted, could lead to disaster.

After this brief introduction, the fact must be emphasized that the effort of interpretation, as much as the sense of the putting together of the message by the sender, as in the sense of the understanding thereof by the receiver, is the basis of all communication. The fact that this effort is no longer made in the present-day world results not only in loneliness for so many people, but also in the egotism and pride of those who, consider themselves above the task of perceiving communications because they believe that they are the sole possessors of the truth.

On a more down-to-earth level, an illustration of this claim can be found in the current fashion for keeping dogs. Many people, some even following the advice of their doctors, think that a small dog will cure their loneliness. In fact, it is quite clear that this is a typical example of the destruction of communication. These people talk to their dogs and remain unaware of the fact that they are completely incapable of making the slightest effort towards an intelligent understanding of their thoughts. They think that their companions agree with them completely and end up giving way to a feeling of complete self-satisfaction or by withdrawing into themselves, this being aggravated in certain cases and causing genuine aggressivity towards other humans, precisely because of their ability to react to the messages

which are transmitted. The animal's affection and its sometimes spectacular manifestations of attachment to its owner have no real or deep meaning. The affection is connected with the purely material aspects of life and if it is misinterpreted by dog owners as real affection which in itself separates them from other humans, can eventually render them closed to all communication. The example of those who keep large dogs in tiny flats in modern cities is even more convincing. These people make no effort towards any human contact and are content to feel the power and superiority engendered by their appearance in the company of the animal. The consequences of this miscommunication are even more disasterous for the human race than might at first be thought; in fact, the animal ends up having the appeal in society which should be that of a child and it is granted privileges which should be exclusively reserved for human beings, who alone are able to give their neighbours the human consideration they rightly expect. Even worse, such is the egotism, the isolation or even the pride which has already been mentioned that it is possible to forget the purely physiological and pathological aspect of the matter: the animal is likely to be found next to you at a table in a restaurant after having licked the excrement of another, or it may even have spent the night in a hotel bedroom leaving its fleas behind, for you, the next occupant. Is this how to encourage human communication?

Until now we have considered the means of communication but we shall now proceed to its individual conditions. The sine qua non of all real communication - we shall come back later to a consideration of conventional communication which is also most important - is the knowledge and especially the understanding of the interlocutors' reciprocal conditions of life. This is why it is surprising to read in the press as well as in certain books, that organised education is no longer possible because it is not possible to teach

the rules and assumptions of a society to a younger generation which rejects them. There is a fundamental error in this conclusion. The basic principle of all society, whatever its political structure, is mutual respect and help in all their forms (it must not be forgotten that the work of an individual is itself a kind of contribution). Many teachers wonder about the reasons which could lead their pupils to respect them and give them the right to teach principles which are then contradicted by everyday life. In fact, what is important is the teacher's knowledge of the environment in which his pupils grow up. By comparing it with his own way of life, he will then be able to create a fruitful exchange in which the negative aspects will be examined as well as the positive ones in order to establish the important criteria. For this comparison to take place it is first necessary for the teacher to be aware of the principles according to which he lives and for his pupils to make the same effort on their side. The only way to achieve this is to live in a different environment from one's own. This is why it seems that is should be obligatory for every teacher to spend considerable time getting to know the way of life of those who are or will be his responsibility. Total immersion in their environment for a short time would obviously be highly recommendable. How can it be supposed, in fact, that some-one to whom student fitters have been entrusted, for example, or student pilots, could communicate with them if he does not speak their language? In order to adapt himself to them, moreover, he will have to have lived in the different situations which his students may have experienced. This is the only way for a teacher to become aware of his own criteria of judgement, and, at the same time, those of others. In this manner he will be able to establish to positive exchange mentioned above and, even more important, his own attitude, in all circumstances, will acquire the status of a model to be followed, peculiar to the

teacher. That task is often delicate, and is always difficult and exhausting because unremitting but it is extremely rewarding.

It is undeniably clear from this that one of the conditions of all fruitful communication is a reciprocal confidence on the part of the interlocutors in their intellectual honesty. There must be a minimum of intellectual honesty and, if this is not present on one side or the other, the communication has no value. At best it remains a simple intellectual game.

The problem of the specificity of certain languages in particular very precise fields arises here , as well as that of the variation of the language according to the social or regional group concerned.

The specificity of the languages for special purposes which are paramount in the present-day technological world makes it necessary to learn the conventions corresponding to the particular field. This entails as deep an understanding as the circumstances permit of the concepts to be expressed, and also the use of the conventional expressions corresponding to these concepts. To give a simple example, the phrase "operational research" has a different meaning when used in the context of the economy, the army, etc. It is clear that each group of specialists, whether they be sportsmen specialising in bicycle-racing or horse-racing, or physicists or economists and so on, has its own language and will even insist on creating passwords particular to that group. In fact, although it is not generally admitted, specialists constitute the overwhelming majority in industrialized society

Language variation from one social or regional group to another must also be considered. George Bernard Shaw brought out the extent of the variation in pronunciation from one group to another in Great Britain, but here it is the choice of terms and structures that is under discussion. A priest of one religious persuasion will not use the same expressions as a priest of another

and one has only to move from one city to another to be obliged to adapt to new linguistic habits in the structure and lexical groups of the language. In the same way, a technician who wishes to become and engineer will have to adapt his language. This adjustment will not be necessary, however, within the field of specific purposes, whether they be literary, administrative or scientific. It can be concluded that within each group of the population there are sub-groups sharing specialities which can be found everywhere. This is what is here referred to as group theory.

This gives rise to another phenomenon, clearly the most important, that of the rôle of language in the acquisition and development of knowledge. All technological and scientific research eventually must necessarily create new lexical units. It is obviously impossible, however, for the majority of those who use these new words to follow the process which led to their creation in each case. At the same time, it is no longer possible for anyone receiving notices from data processing not to use the notion of the "floating point". This does not necessarily mean that he needs to understand exactly how the computer works. The language phenomenon will be used in a deductive way in most cases, and will only be used in an inductive way by a specific group or sub-group. Furthermore, it is no longer possible for a member of an industrialized nation not to refer to certain economic questions or to certain questions about the functioning of his car. It follows that, in each case, the user proceeds from the lexical unit to a concept which he can perceive only as a result.

It can be concluded that languages are, in industrialized society, for all human beings without exception, the only way to approach the fields they deal with without being specialists. Even specialists must deal with a great

many fields in which they do not specialise.

These specialised languages are the only means of access to twentieth century civilisation. All original work and all research will become inapplicable and may never be applied if it is not assimilated into the different languages.

There is still something to be said about the different means of transmitting messages. "Word of mouth" and printed texts are still most important but there are also some technical methods accompanying them, or beginning to replace them, and a certain minimum amount of training is necessary to use them efficiently. Only those techniques which are used for communication daily, and must consequently be fully mastered by potential users, will be mentioned:

- the telephone and the microphone; a knowledge is indispensable, not only of the classic procedure but also of the problems of sound transmission which in certain conditions make precise enunciation necessary;
- the television, where people moving around cause problems just as serious as not knowing which way to look or which attitude to take up;
- the making of a short film, where the verbal sequences and the surrounding material must be very carefully treated if the message being transmitted is to be perceived.

In conclusion it can be stated that, whether they be words signs, symbols or gestures, the elements of language form the matter without which nothing human can survive.

II. Communication for Special Purposes

Languages for special purposes are only taught to people who already know their native language and are fluent in the foreign language concerned. The case of those who have not yet acquired this knowledge of the foreign language need not concern us here. In urgent situations, only a decoding process will be of any help to them.

In the present case, therefore, the process is inevitably one of comparison and the references are all the more solidly based because the native language is regularly used for the same special purpose as part of everyday work.

Everyone wishing to learn a technical language must be careful not to fall into the trap of thinking that it is sufficient to learn the vocabulary.

The true problem lies elsewhere:

a) Every technical language is characterized by psychological transpositions involving different available choices and associations of terms which have nothing in common with the same technical subject matter as described in another language. In this way, if we take the French phrase : Je porte le volume en fonction de l'intensité", and look up "porter" in the dictionary, it will give "to bear" or "to carry, and so on. If we then look up "fonction" or "en fonction de", it will give a lot of possible translations but none of them will correspond with what we need to arrive at "I plot the volume against the intensity".

The psychological transposition is even more striking if we compare: "Deux corps de même nature se dissolvent entre eux" with"like dissolves like". The only way to teach this kind of thing is to make frequency counts of the terms in the appropriate texts. These texts may be printed or they may just as well be tape recordings of dialogues or conferences. To those who are against

the idea of frequency as verified by computers and who only believe in situations, it can easily be replied that frequency counts consist of nothing other than a large number of situations.

b) More complex are the concepts hidden by a given expression. As an example, let us take the phrase "a turnkey job" which can be translated into French by "un travail cles en mains". The initial concept of the French phrase was, and still is, associated in French people's minds with a completed piece of work like an apartment or a car. The concept of "turnkey job" however, translated by "clés en mains" for purely linguistic reasons, is one concerned with a job to be done, which has not yet been started and for which the plans and so on are being prepared. The teaching of languages for special purposes, therefore, must necessarily imply in addition a comparative study of different concepts, otherwise linguistic errors will be responsible for financial catastrophe. This would be even worse if the catastrophe entailed a loss of human life, as might be the case in aviation for example.

c) The third problem is that of structure. Although it is not the general impression, languages for special purposes do not always, in all circumstances, use the same structures as the normal basic language. This is true to such an extent that, because of the great importance of technology in the modern world, the technical language affects the basic language more than the reverse. The example of prepositions will make this clearer. The phrase "5% of normal" implies that 95% are normal, but for certain special purposes the opposite is true. A mistaken translation could, therefore, cause dramatic errors in medical research, even though it is a matter of a single word. The mere use of the subjunctive with no modal in most English scientific languages, in such a structure as "so that they be..." is one of the most frequent examples. Here, and elsewhere, each technical language is characterised by different frequencies,

and once these are made clear, it is possible to devise a truly effective teaching method.

d) It should not be forgotten that the different technical languages are more frequently translated than any others. As permanent international collaboration is essential for the different scientific fields to develop normally, a consideration of the above data is of the utmost importance. Furthermore, it must be remembered that in most languages for special purposes, the written and spoken languages are very nearly identical.

In teaching, two points should be noted:

- 1. How to give the students the benefit of this research.
- 2. How to check what has been learnt.

1) The first stage depends necessarily on the memory and therefore consists of individual work.

2) The knowledge acquired can easily be tested by multiple choice questions

- on concepts
- on conventional groups
- on structures.

3) The third stage depends on the phenomenon of comparison and therefore on the translation from one language to another. In this way, the process can be started by the association of the different groups learnt in the form of "patent sentences".

4) Once he has acquired this knowledge, the student can begin conversation exercises on his own work in a particular field. This could consist either of a true conversation or of questions and answers in which the student must make an effort to put his "know how" within the range of those questioning him.

5) If expressing oneself is important, it is just as important to be able to understand others. This is why frequent listening to recorded texts, programmed in relation to the frequencies as well as uncontrolled authentic texts or

conversations in the technical language, is an important part of the task. In order to be of maximum benefit the listening must be individual, and the student must have a great variety of recordings at his disposition. The teacher's role will then be to have an individual conversation with each student on the texts or dialogues he has heard; this is followed by the writing-up stage, which is preceded by a brief summary and includes a personal written commentary, and which will be corrected in the presence of the student.

6) All this tends to suppress the idea of group lessons and to replace it with a concept of extreme individualisation. The questions to be asked and the form these take is a fundamental problem. As an indication it should be noted that any question which is answered correctly more than 80% of the time is eliminated, just as is any question for which less than 20% of the answers are correct.

Group lessons will no longer be the most important part of the course and will be reduced to mere collective exercises such as the teaching of direct translation, debates on the socio-psychological problems it is important to understand in order to use a language, and to the elucidation of different concepts connected to the language under study, that is, briefly, everything which is part of the infrastructure of a language and which requires an explanation. That which is essential, however, will be accomplished during individual work with recordings or printed documents, and the learning of the concepts mentioned earlier. The testing of the student's knowledge by the teacher will also serve as an individual deepening and the student will continue to learn new and richer ways of expressing himself from his teacher.

As for putting his knowledge to practical use, the student will be asked to translate communications from research laboratories or to interpret

for international conferences in his field. In this way he will profit from his work immediately and will notice any gaps in his knowledge yet to be filled.

III. The means of transmission of communication

As has already been said, the fundamental means of transmission of communication, and the basis of all others, is and always will be by word of mouth; this remains true of direct communication between two or more people, of the telephone, the radio, the television and the cinema; it is also true of the reading of books or newspapers, in which the speaker's words are printed instead of being emitted vocally.

The different means of communication listed above will be examined again, but it must first be observed that the knowledge, not merely superficial but genuinely technical, that everyone should have of all the different means of communicating with others, including the most modern, is of the utmost importance. In fact, it is not possible to grasp the measure of a given message without a clear understanding of the procedures used to transmit it. It seems most regrettable that most people have no knowledge whatever of these matters, and because of this, unaware of the restrictions caused by the different systems, they have no understanding of the effect of their use on the true meaning of the message, an effect which definitely has repercussions on a genuinely human scale.

To begin with the telephone, it must be said that, as the speakers cannot see each other, the whole context of sympathy or antipathy, that is everything visual, is missing from their words. The result is that, being unattenuated either by gesture or by look, the words spoken take on a much more incisive form. However, even supposing that new technological inventions should one day permit the speakers to see each other, there will still remain the real physical separation which will accentuate the effect of their words. Here, more than elsewhere, what is assumed plays a predominant rôle. Words are liable to become an end in themselves. This tendency is, of course,

reinforced by two phenomona which are necessarily connected to the telephone conversation, which are, firstly, the time limit, often forcing the speakers to be so brief as to forget the preservation of human respect and, secondly, the multiple possibilities of communication at the disposition of the speaker, who can pass from one line to another and is therefore tempted to treat all problems as so many matters to be arranged and classified, with human contact being totally excluded and often considered ridiculous and negligible.

To preserve the profound value of this means of communication it is absolutely necessary to be aware of all these problems and, having consideration for them, to weigh each individual word and to add some words to the message to give it a more human quality.

On a purely technical level, it should not be forgotten that the words should go into the speaking part of the telephone and not into the receiver.

On the subject of the radio, the communication has a completely different quality because here, as with the television, the message is merely one-way and the response is both deferred and indirect.

All this means that the speaker must have done a significant amount of work in advance, or have considerable experience, if he is to be able to reply in advance to all the questions, objections and suggestions which may be made. If not, he must want to impose his own opinion by having regard only for parameters he has fixed himself. Just as with the telephone, the question of time restrictions plays an important part, just as does the question of physical separation and the absence of the visual aspects. The resulting danger for the speaker is that he might tend to despise those to whom his message is addressed. The risk is even greater because the speaker

can exchange messages with his immediate entourage with no trouble at all, miming or using gestures, by a meaningful look or by writing a note, and this makes those who are receiving the communication seem even more like distant objects. This explains why a radio message takes on a very different value depending on whether or not the speaker is aware of the dangers which threaten him. To this must be added the importance of the sound which in practice creates an environment for the message and therefore conditions it to a certain extent. Other considerations include the rapidity of speech, different intonation and pronunciation and the tone of voice. The latter is modified by the environment whether natural or artificially created. The production engineers may want to reflect the voice from a flat surface or to achieve a cathedral effect by using a hollow sound board or some other effect; the selection and form of the microphone and its distance from the speaker must also be considered. All these elements give a different character to the message and modify its true value, so it is important for everyone to be fully aware of them. Even the terms used, it is not to be forgotten, may be chosen because of their phonetic value, as with sibilants and fricatives for example.

The same problems arise in an even stronger form when short excerpts have to be recorded, then edited and broadcast later. The importance of the psychology which has an influence on both the tone and meaning of what is said, is brought out very clearly in the performance of this task. This explains the sometimes shocking differences which can be noticed by the listener. When the problem of acoustic environment is also taken into consideration it is easy to understand how difficult it is, after an interval of several days, or even only a few hours, to reproduce the same feeling or mood. This brings up the main problem that arises with delayed communication, or simply communication which must be continued after a pause; the art of preserving a mood and keeping the argument coherent is then shown very clearly.

The problems of the transmission and reception of the different vowels and consonants will not be discussed in detail here. It should be noted, however, that the question of sibilants and so on is most important and has been described elsewhere.

This brings us to the television and the cinema.

All the elements mentioned as having to do with the telephone and the radio are equally important here, but another factor, that of the picture, must also be considered. The highly relative value of pictures has already been discussed in a chapter in the publication about languages for special purposes, so its value and quality will not be discussed here, but rather its editing and, therefore, together with the choice of picture, the connection between word and image, or, to go a stage further, that between sound and image.

Editing requires, above all else, the establishment and application of a detailed plan which takes account both of the proposed goal and of the ability to apprehend it, of those to whom the message is addressed. It is indispensable to have a script and to establish the timing which, on the one hand, will respect the proportions of the different parts of the message and, on the other, will allow a synchronisation of sound and image. We are here concerned with the experience of editing documentary films giving cause for a reaction and for further study, because that experience will more often be necessary than the others. Firstly, the environment in which the action is situated, or the problem about to be considered, is presented. The accompanying text should be concerned with generalities so as to allow the audience to situate the action or the problem and, more important, having regard for the attention threshold discussed elsewhere, it must be clear and easy to assimilate. This presentation will be followed by a series of different situations, which

should make the factors involved clear, while the text will clarify the method used. Only at a third stage will the treatment be more specific, when documents such as graphs, formulae or facsimiles will correspond to a text which uses technical terms, detailed references and technical results, the last term being used in its widest sense. It is often advantageous to distribute prints or photocopies of this part of the film. The last part must always raise the point of the use and the aims of the subject under discussion. That is why concrete images should be presented and accompanied by a text, both to justify what the pictures show, and to make reservations about them, just as posters contain statements which are at the same time a source of information and an indication of what further study must be undertaken. It is therefore to be assumed that the person editing the film knows and understands the method of asking questions which was explained in detail in a chapter in the book on 'Languages for Special Purposes'. Very briefly, there are two main catgories of question: yes-questions which serve to check on the understanding of what has just been demonstrated and investigative questions which open the way towards new or even more detailed information.

In view of all this a careful selection and sensible use of the pictures must be taken for granted.

Finally, as regards printed publications, it is important to underline the importance of the table of contents, and the index as well as the necessity for an end-paper and reservation of a copy for the copy-right libraries, without forgetting the international numbering system when necessary. Nor is the choice of type a negligible question. For the author, as a former typesetter, this is no problem, but a non-specialist will need to understand such things as 'shank' or 'Roman type', as well as what is meant by 'bold' 'half-tone' and 'condensed'type. All work of this nature must be prepared well in advance so that there will be enough time for proof correcting. A table of the signs used in proof correcting is appended here for the benefit of those interested.

Nothing will be said here about the writing of notes and letters, which has already been discussed in an earlier chapter. It is appropriate in conclusion to point out how important it is that everyone should be familiar with all these different means of communication, and should use them to the full, so that nothing which might aid mutual understanding be neglected, for that is the clearest way of showing the respect that everyone owes to his fellows.

IV. Communication within social and economic structures

This study is based on the most obvious fact that all social groups whatever their special purpose, require, not only to function efficiently as a whole, but also for the well-being of their individual members, three ways of communication. One goes from top to bottom, another from bottom to top and the third is a permanent horizontal or lateral form of communication. This is just as true within a business as within a university college or an association for example.

This means in practice that everyone in the chain of communication has a clearly defined part to play, and that even though the perpetual exchange of ideas is essential for the progress of the whole and the satisfaction of the individual, it must not be allowed to become an end in itself, as is too often the case in 'group dynamics'. All that would be produced in that way would be perpetual doubt, making decision making and action impossible.

The first stage in this kind of communication concerns, of course, the problem of the objectives to be achieved. This task is the subject of intensive communication in both vertical directions, as people at all levels can become aware of the objectives, and that prerogative cannot be reserved for any single person. Thus no form of communication may be neglected in this respect, and there must be a system. This may take a variety of forms such as meetings or written documents with guaranteed reply, which will permit the careful study and constant up-dating of the objectives to be achieved.

Once even a partial objective has been decided on, it must be known to all those concerned with it, whether closely or not, for all their efforts are conditioned by that objective. This implies that those responsible for the decision had done everything possible to be aware of the requirements.

It follows that those responsible for the decision must be, by the

very nature of their responsibility, of a senior rank, and for this reason they will have to study the means of achieving the objective decided upon, and then communicate a list of those means to their juniors.

These means may be of very different sorts. In general, in economics groups, they will be concerned with finance, but they may also be material means such as machines or raw materials. In other cases, however, it will largely be a matter of methodology. In this sense both what is known as 'software' and 'hardware' have identical rôles as regards the objective; they are both a means to an end.

Nevertheless, it must not be forgotten that, while the objectives may have a very precise character, the means, in order to be used with the desired efficiency, must be communicated to those concerned in minute detail, and, moreover, must be fully understood. As regards methods, it is obvious that there will be some delay before they can be understood and properly applied. That is also true when using one machine or another. As for financial means, the details, contrary to what some still believe, must not merely be given in figures. Detailed explanations allowing everyone to clearly understand the mechanisms used, the details involved and the reasons for the solution adopted, are indispensable.

Here the next stage must be considered - that of putting the decision or decisions taken into practice. This is what was described above as horizontal communication. In fact, the application of the decisions taken requires good faith and total intellectual honesty on the part of those concerned, otherwise no judgement will be of any value. If the judgement is to have an objective value, or what nowadays is called a scientific value, it must not be the result of merely one or two experiments. What scientists call "reproductibility" here takes on its full meaning. The judgement must be valid in a large number

of cases. This does not mean that work can never begin by the means and methods suggested for the attainment of the objective in very variable conditions, for, if it is true that "the same causes in the same conditions have the same effects, and if it is also true that if the conditions are changed the experiment might be spoiled, then, conversely, and this is the usual aim of all human research, a change in conditions can, indeed must, also be able to have a beneficial effect on the research. This makes it clear how important horizontal communication is, and how essential it is that the results of that communication should then be communicated vertically. This is not a matter of a modification or adaptation of the 'hardware' or 'software' means, but rather one of their conditions of use. In fact, if the modifications made in the objectives or the means are too frequent, the result will be that no action is possible, because of the wastage of the means and efforts used.

Some examples can be given of the conditions to be considered : safety at work, the division of working time and the establishment of a rhythm of work compatible with a decent respect for the human being; these are technical problems in the strict sense. It should be possible, with a brief discussion of these few examples, to make the problem clear.

Only someone confronted at every moment of his work with the risks to which he is exposed has to suffer all their consequences. The creator of such and such a means must, as a matter of vital importance, draw the attention of the user to its possible dangers: the means may be physical but they can also be intellectual. It is, of course, essential to preserve the respect for the human body, but it is equally important to care for the mental equilibrium and, because of this, the horizontal communication between users must be permanent and continuous as work progresses. Vertical communication must of

necessity take place before the application of the means, but also afterwards, on the matter of physical and intellectual safety.

As for working hours, it is the case in all sectors that some jobs require the simultaneous presence of all those taking part and other jobs for which each person, or at least fairly small groups of people can exercise their individual choice. In this way, the organisation which must take place before the actual work begins, whatever the job involved, requires the presence of all the workers and can be called the 'core' of the work; only immediate communication between all concerned can permit everyone to benefit from the best possible use of his time. It is also the case with 'software' that regular general meetings are the only way to obtain greater efficiency in working hours, and hence both in effort and results. The individual work can then be freely organised and, thanks to the communication which must be constantly preserved amongst those concerned, can even reach a stage at which different operations can take place simultaneously, thus leading to a speedier, or at least easier, synthesis, to the benefit of all.

The next point mentioned is the rhythm of work, where, from a material viewpoint, two elements must be taken into consideration: the quantity and the quality of production. The absenteeism and saturation which results from the standardization of hours means that any feeling of greater production owing to this method remains an illusion. This is even more so in the matter of quality. For this reason the material aspects should always be considered in close relationship with the purely human ones. Ideally, working hours should be a function of the age, the state of health and the physical and intellectural capacities of the individual. An older teacher, for example, will work more slowly, but in general will benefit from a lighter time-table, for his experience and accumulated knowledge will amply compensate

for the shorter teaching time. To obtain such a modification of working conditions, each person must be able to express himself fully, so that the communication established can help each individual and thus render the group as a whole more content.

One of the conditions examined has deliberately been left aside until now: the technical aspect. This aspect first becomes obvious on the level of horizontal communication. In fact, a man of the trade, in whatever field, is better placed than anyone to judge the methods of working proposed, so it is imperative that this form of communication should be developed and then redirected as vertical communication.

The psychological aspects of communication are not the least important. On this level, it is extremely important that each person should be certain that, by giving his opinion he will not cause any harm to his position within the firm. Here the importance of preliminary training arises so that everyone should be aware of the consequences of the opinion that he may wish to express. To this end, certain criteria are necessary, of which the principal ones follow:

1) Either the limits, or the possible developments for a precise situation, must be known on the technical level.

2) No-one may damage the interests of others in any way.

3) Any instance of serious unprofessional behaviour should be reported directly to the person concerned.

The existence of these criteria assumes that those concerned are aware of the promotion policy of the company, and that no details are kept secret from them.

The different methods of communication must now be examined in greater detail. Whether in face to face conversation or conversation by telephone the spoken word remains the basic method. Where vertical communication is involved the best method will very often be a printed or photocopied document accompanied by a questionnaire, to which the replies should

never be anonymous. Several successive questionnaires may be used depending on the replies received. In practice, communication supposes personal responsibility.

In horizontal communication a procedure which requires forms to be filled in by those at work is often used. Different kinds of information can be required on the forms but one of the questions they usually ask concerns the amount of time spent on a particular job. Here there are two opposing tendencies; on the one hand people often enter a shorter time than was actually necessary, in the hope of showing their zeal and efficiency, and, on the other, people may enter a longer time so as to show how difficult the work was, and hoping that they may persuade the management to increase the manpower or pay overtime. Both these tendencies are annoying as only the truth can be useful either to the individual or to the group. The possibility of further employment is reduced, and it is possible that the cost price may be wrongly evaluated if too short a time is declared. If the cost price is too low the consequences for the group will be dangerous. By declaring too long a time, the cost price is again wrongly evaluated and progress is blocked.

In vertical communication, just as in horizontal communication, memoranda addressed to all those concerned by the message are useful in those cases where a meeting does not seem necessary. These memoranda, in spite of what some people seem to believe, should have a mark of human respect, and neither time nor money is wasted by making it clear, in the text and by the phrases used, that those addressed are respected. Finally, in all communication, it must never be forgotten that to gain the respect of others it is necessary to respect them. As has been said elsewhere, the formula C = c+M+P is still valid. Let C = communication and c = confidence; now c is conditioned by the assumed value of the speaker, but it must not be forgotten that the first effort at adaptation

must be in the language used, for it is through language that the initial communication must take place. If M = the self, that is the attitude of the principal speaker towards the others, he must be aware of his own advantages and faults as well as those of the people he is addressing. P, that is the examination of the problems as such, comes later.

In conclusion, it is to be hoped that these few points, the fruit of a career as a teacher, as well as of considerable experience of life in workshops, will serve the cause of human understanding and help the social and economic machine to run freely.

V. The teaching of communication through the Press

Before anything else can be taught, it is first necessary to bring out the fact that all communication presumes the existence of two poles, those of the sender and the receiver of the message, and that the rôles can be exchanged. If this is not the case, there is no communication but rather a matter of documentation.

If communication is to be taught effectively, the students must be used to the different means of communication, which, as regards mass media, go from the daily newspaper to the learned periodical, and from the radio or television to the tape-recorder. It is clear that the means used may vary enormously, but it is also true that the personality of the writer of an article, or the speaker on the radio, will vary just as much in matters of style, tone of voice, accent and so on.

All the parameters must be taken into consideration. For this reason variety is the key-word in an efficient teaching system.

Having established this, the conditions in which the message is received must now be examined, and the two main elements of this problem are space and time.

As for space, the first point is where the sending and the receiving of the message takes place. A comfortable armchair, for instance, in a comfortable room, changes the impact of the communication drastically. This is not only the case in the cinema, but also for the radio and television, and even more so when reading newspapers. This does not mean, however, that comfort is indispensable for effective communication and, in fact, the opposite is sometimes the case, as too much comfort tends to put people in too passive a mood. This often happens when people are watching television; where, furthermore the comfort is also intellectual because what is seen and heard is not the

result of the exercise of free choice, but of a very limited and almost mechanical one, to the point where most people no longer think about what they see and hear but instead passively accept the aggression of this means of communication.

Moreover, it is also well-known that the problem of space plays an important part in the respective positions of the sender and the receiver of the message. If, for example, the sender is on a platform or at the top of a flight of steps at the entrance to a building with the receiver on a lower level, the message is not received in the same way as if the two are on the same level. Strangely enough, this is also true in the case of people watching television, the clearest example of this can be established by comparing the reactions of people watching television in a bar and those of people immediately in front of their own set at home. The same thing can happen during a lecture if the television is in the corner of the lecture theatre, well above the students.

The second condition is that of time. Obviously, a message will not have the same effect if it is sent at six o'clock in the morning as it would if sent at six in the evening. The problem of time must also be considered when deciding the length of a message. It must be kept in mind that the articles used for teaching communication must always be of moderate length and have very varied contents so as to get and keep the interest of the students, and especially to obtain be cause of their variety, tangible results in the study of any particular question.

As regards the mass media, statistics have been obtained which show that no-one can concentrate fully for longer than twenty minutes. Although this is fairly well-known, there is another phenomenon, the threshold of attention, which is rarely considered in spite of its great importance. The different

lengths of time which pass before a message can be received in the real sense, and which vary according to the age of those receiving it, and their location when they receive it, has already been mentioned in a previously published study.

The problem of time and space having been discussed, the physiological conditions, which are also important in all communication, can now be examined. To this end, the different age groups will be discussed separately. Three age groups will be considered: children between ten and fourteen, from fourteen to eighteen and those over eighteen.

In the opinion of the author, the teaching of communication through mass media between the ages ten to fourteen should be handled with caution and there should even be some restrictions, because it is a fact that each time a child of that age finds himself face to face with a living being, the natural tendency is for him to be deeply influenced in one way or another. This prevents any objective or positive results and for this reason it must be concluded that the use of mass media, in this particular case, necessitates the constant supervision and participation of an adult to make sure that the child's highly developed imagination and affectivity do not lead to false interpretations. The situation is different with written articles from the press because it is possible to select articles or pictures in such a way as to arrive at a discussion for which the solid base of printed paper no longer has such a dangerous ephemeral quality. Of course, conversations may ensue, during which the child will learn not only how to express his own reactions freely but also to assimilate four or five adequate 'groups of terms', precisely in order to express himself clearly and make himself understood on that particular subject. When using pictures it is also possible to get the child to suggest the terms which may be used by the different characters

he sees and, in this way, obtain a written expression of the phrases he has learnt.

In this fashion, the boy or girl develops a respect for correct expression just as much in spelling as in grammatical structure. The opportunity should be taken here to mention the imitative gifts of children of that age, and their readiness to participate which makes communication particularly easy where they are concerned.

It should also be noticed that dress also has an undeniable influence on children's willingness or lack of desire to adopt and affirm a positive character, especially in the case of boys. Twenty years ago, boys of that age all wore short trousers in France, and there can be no doubt that the fact that nowadays they wear long trousers has destroyed the need to show respectable maturity. Long trousers used to be a kind of goal to be achieved, and even a sort of prize which presupposed a struggle to reach the level of those considered worthy of the rank of adult.

Furthermore, it is extremely important to open up a new world for children of that age, a world fundamentally different from that of every-day life. The imagination has an important part to play at this stage of life, and the media should have an important place in developing a child's mind.

The teaching of those over fourteen

Physiological studies have shown that two opposing attitudes are present in those aged between fourteen and eighteen, the first being one of excessive timidity because of which a lot of pupils become withdrawn and consequently become reluctant to communicate; and the second, conversely, is one in which a form of revolt leads them to establish their personality in an aggressive manner. In all communication within this age group, it is necessary

to treat the problems which arise from the concrete reality with which these young people are preoccupied. It is most important to avoid any discussion on questions or problems that do not concern them closely and directly, whether in the past, present or the future. All the rest, in their eyes, has no meaning and is, as they say 'inconsistent'. A system for asking questions was established by the author in a recent publication. In fact, few people do know how to ask questions, for the very reason that as they ask their question, they forget the successive stages of deliberation which took place before they could reach the answer they expect.

As far as the group of eighteen and over is concerned, what counts is the professional consideration and that is why they tend to concentrate on problems which are directly or indirectly connected with their work. With them, communication consists almost entirely of 'talking shop'. The second important point is that, here, every proposition requires a preliminary analysis and a satisfactory explanation, by which is meant that the explanation must agree with the experience of the person concerned. That is as true on the level of talking shop as it is in social language. In fact, the communication is affected by the position of the person in society, and the language used must necessarily correspond to what that person considers appropriate to his situation. Furthermore, the psychological aspect of the discussion becomes particularly obvious when the head of staff, one of his assistants and a secretary are included in the group.

Another point which should not be forgotten is that of the acquisition of habits and prejudices and, in particular, that of thinking, as some people do, that they are naturally superior in knowledge or, on the contrary, the serious handicap which other people have because they are convinced of their ignorance and think themselves incapable of making progress. This is all the more striking because it is usual, in the present-

day world, to belong to a particular group, and, in consequence, the sense of individual responsibility has diminished.

Here again, the absence of any deep personality is reflected in the way of dressing : from 14 to 18 in fact, everyone, whatever their sex or social situation, wears the same nondescript uniform, consisting of jeans and tee-shirt. For this reason, if, later, they want to bring out their personality, the only solution is for them to develop their professional qualities so as to be assured of success in a precise and well defined professional field.

Having considered this, the content of the communication should now be discussed.

As regards the group aged between 10 and 14, there is nothing to add. The content derives directly from what was said about the elements of space and time and about the physiological aspects of the problem.

With those aged between 14 and 18 a fundamental point should be stressed: that of the need for a preliminary familiarisation with the relevant information. It is a sheer waste of time to undertake a debate or discussion on any problem without having allowed - and sometimes even obliged - the students to get to know the documents which must be prepared for them so that they can achieve a genuine control over all the arguments on the problem, without forgetting all the solutions which have been proposed in the past. These documents could consist of newspapers, radio programmes, cassettes or tapes.

The second important point about the preliminary investigation of the problem is that it is necessary to focus the students' attention on a number of expressions which occur frequently in the relevant documents and are part of that particular field. Communication will not be possible in that field if the participants do not use the given recurring phrases and, of course, they

will not be able to use them if they have not recurred a sufficient number of times.

The third point, which is no less important, is the precise connection between the selected expressions and the ideas to be expressed. The development of the senses of responsibility and of precision are directly concerned here. In other words, it is the most important aspect of communication, and explains why a deep and clear understanding of the concept under discussion is a fundamental condition for all communication. Numerous examples could be given to show the truth of this but it should be sufficient to mention only a few to show how obvious it is. How,for example, can the Frenchman be expected to understand the word 'brunch' which for him is a totally inaccessible concept? What is the meaning of 'packaging engineer'? It was considered necessary to put all these expressions with their translations (or rather their transpositions) on the memory bank of our computer in order of frequency (in French, English, German, Russian).

The over—eighteen group can now be discussed. Where purely professional fields are concerned, the newspapers people read and the cassettes, tapes and radio programmes they are interested in, are highly specific and sometimes very technical. For this reason, the considerations of frecuency and clear understanding of concepts are here more important than ever. It should be added that in these circumstances, the frecuencies are more important than in everyday life but, on the other hand, newly invented words are, of course, more numerous. In order to facilitate this kind of communication the Centre is continuing the study of these frequencies and the corresponding concepts, all of which is stored in the memory of a computer and can thus be consulted without difficulty.

The psychological approach to concepts is also of great importance.

A Frenchman tends to begin an explanation of his discovery by claiming that it is important, whereas an American would be taken aback by that assertion, and would only accept it after it had been clearly shown. In the same way, in a study undertaken recently by our Centre, the comparison of advertisements for the same machine in France, Great Britain, the United State and Germany, showed great differences in approach. This was particularly true in the motor-car industry.

In short, communication requires the right psychological approach (cf. the author's group theory), an adequate knowledge and control of the expressions of the technical language, in such a way as to be able to use them without difficulty (availability) and to structure the phrases according to the conventions of the particular group (cf. the author's study on 'Specific Structures').

The whole can be expressed in a formula which is the key to all the author's studies :

$$C = c + E + M + P$$

where

C = Communication

c = confidence (group theory)

E = environment

M = the self (moi)

and P = the problem

VI. The teaching of modern languages

The concept of group lessons should be abolished. In the method proposed, work in groups is only used to give guiding lines and for exercises such as debate or translation. The essential parts of the work must be done alone in the language laboratory using specially and partly in a one-to-one situation with the teacher where other students may be present to absorb what they hear or to point out any mistakes.

The first approach is made in the mother tongue and is concerned with the background and way of life of those who want to learn the foreign language.

All the teaching is based on the results of research on the frequency of functional groups.

First Diploma

A. Objects and situations having to do with daily life:

- vital needs : shopping, working, telephone calls, eating, dress and means of transport.
- communication : ways of making requests, excusing oneself, etc.
  ways of asking questions and reading.
- grammar: pronouns, subjects and complements, the verb 'to be' (in the sense of to exist) and the verb 'to have'.
  numbers : the date, a person's age, the time, quantities and connected verbs.
  modal auxiliaries
  irregular plurals
  comparatives, relatives, adverbial functions, possessive adjectives
- phonetics : sounds and intonation

NB. Each question should correspond to a reality of the moment and serve some purpose; questions and answers should be genuinely motivated.

B. Particular situations:

- visiting the doctor
- the library
- the statement of a personal aim, explanation of individual origins
- looking for accommodation
- making a contribution to a public lecture
- introductions of lectures,etc.

C. The study of twenty post-cards in order to acquire a basic vocabulary and the control of simple structures.

D. The systematic study of structures along the lines of the plan included here, which is valid for every language.

E. At the same time the individual should work by himself in the language laboratory,under the supervision of the teacher with subsequent testing by the latter, using specially prepared cassettes for the study of intonation, rhythm, structure and vocabulary.

F. Listening in groups to dialogues on cassettes:

- the teacher asks the students questions to help them to memorize the phrases.
- the students ask each other questions
- written translation

Tests

I. A conversation on an everyday situation - the questions for this test should take the form suggested in 'Twentieth Century Thought' by the author.

2. Tests on lexical units (for everyone)

3. The reading of a dialogue.

4. Tests on structures using multiple choice questions based on research on the frequency of mistakes.

5. Tests on the comprehension of a programmed cassette.

6. Conversation on specific situations.

7. Tests on the comprehension of a 'natural' text such as a dialogue.

8. Written translation using the basic language.

Those students who pass the first six tests are classed in level one; those who pass the last three are classed at the higher level, level two.

2nd Diploma

A. The study of the principal problems of "civilization" with short talks and debates on trade unions, government and so on.

B. The comparative study of economic concepts by compiling dossiers to be presented to the group, as well as debates and so on.

C. The study fo scientific problems with a presentation in the form of a poster - symposium followed by a debate.

D. The writing of administrative and personal letters.

E. The learning of conventional groups in different technical languages, depending on the students' needs. Preliminary frequency research is necessary here.

F. The learning of possible specific structures.

G. The annotation of a text, followed by its translation.

H. Individual listening to cassettes on specific purposes.

I. Individual listening to 'natural' cassettes on specific purposes, followed by individual work with the teacher.

J. Summarizing the cassette after three hearings.

K. Summarizing the cassette after one hearing.

L. Commentary on the cassette after three hearings.

M. Translation of the cassette after three hearings.

N. Simultaneous translation.

Tests

1. Translation of economic texts.

2. Translation of texts on special purposes.

3. The writing of letters in order to place orders or make complaints on economic and administrative matters.

4. Multiple choice questions using economic language based on frequency research.

5. Multiple choice questions using legal terms, based on frequency research.

6. Multiple choice questions using language for any particular special purpose.

7. Tests of oral comprehension using recordings of conferences.

8. Talks and conversations on a technical subject.

Students who pass the first six tests are classed on level three, and those who pass the last two tests are classed on level four, the highest level.

VII. Communication as a point of departure

Basic procedure

C = c + M + E + P

where C = Communication

c = Confidence - and elementary conventions

M = the Self

E = the Environment

and P = Problems - and specific conventions

Frequencies

1) "M"

How old I am	Quel est mon âge
How much I know about	Ce que je sais au sujet de
How often I went to	Combien de fois je suis allé
Why I am here	Pourquoi je suis ici
What I want you to understand	Ce que je veux que vous compreniez

2) "E"

I can speak (prove, explain etc..)	Je sais parler (expliquer, démontrer etc..)
I don't mind + ing	Cela ne me fait rien de ....
It is worth + ing	Cela vaut la peine de ....

The problems of accomodation, transport and health :

I have found accomodation	J'ai trouver à me loger
There is something wrong	Il y a quelque chose qui ne va pas
My train (plane) is due to arrive at X hours (o' clock)	Mon train (mon avion) doit arriver à X heures

3) "P"

I am dealing with	Je m'occupe de....
I have to earn my living	Je dois gagner ma vie
I had to apply for	Il a fallu que je fasse une demande de ...

It took several hours to...	Il m'a fallu plusieurs heures pour ...
I would like to point out... (to emphasize)	Je tiens à faire remarquer...

NB - These frequencies serve just as well as stimuli which can be developed as required.

4) "c"

Pleased to meet you (How do you do?)	Enchanté de faire votre connaissance
Nice meeting you	Enchanté d'avoir fait votre connaissance
Sorry to trouble you	Excusez-moi de vous deranger
May I introduce myself	Permettez-moi de me présenter
It is my privilege to introduce Mr....	Il m'est agréable to présenter Monsieur....
The telephone and the microphone:-	
This is....	Ici....
Who is speaking?	Qui est à l'appareil?
Please hold the line	Restez à l'appareil je vous prie
Please put me through to extension..	Passez-moi le poste .....
Hang up	Raccrochez

Other developments are indicated in the table entitled 'The teaching of Modern Languages' and in the table showing how to ask questions, both of which can be found in 'Twentieth Century Thought' by the author.

VIII. Research at the Centre for Applied Study in Communication

The research carried out at the Centre for Applied Study in Communication is designed, as the name implies, to put to use directly, whether in the field of teaching, of translation (scientific and medical communications are translated before being published abroad), or in that of interpretation (translation of lectures).

There are four main points.

Firstly, that of communication. The author lectured on the conditions of communication at Oxford in January 1977, during an international conference. Without going into details of this lecture, it will be sufficient to point out that research in this field has approached the subject from three directions: the physiological aspects (the addresser and addressee), the means used, and the contents of the message. Still on the subject of communication, a deep study was undertaken by the Centre, in conjunction with Broadbent, on what has been called the rate of retentivity. This study showed that in a ten-minute message 70% is remembered, in a 25-minute message, 45%, a 40-minute message, 30%, and a 60-minute message, 10%, hence the importance of redundancy. At the same time, the decoding of the signified in relation to the signifier has made possible the establishment of an elimination procedure which can be applied not only when reading specialized literature but also when listening to lectures.

Another study, also on the subject of communication, is in progress on the recommended procedures in the relationship of the engineer and the rest of the business personnel as regards 'brain-storming, memoranda, forward planning and checking.

In the same way, business administration and working conditions are being considered in conjunction with industry.

A study of new techniques in information services, of which a copy is available to members of staff must also be mentioned.

The second principal aim, that of expression, will now be considered. While at first sight it may seem that the number of possible replies for each question is infinite, the truth is that there are only two main categories of reply - those which overturn the assumptions implied in the question, and those which do not. This leads to a binary system of paradigms.

When this is established, it is possible to programme exercises for the checking of knowledge, whether by stimulus and response, possibly using posters, or by the use of multiple choice questions.

In the same field, a study of the frequency of different structural errors is also in progress.

The study of basic needs in expression, using the frequency principle, has allowed a very precise course of study to be developed.

A conference organized on the 2nd March,1977, showed the importance of language in all the fields of modern life, whether scientific, medical involving the cinema, etc. The programme of the conference is given below:

International Conference on "Concept and Language"

Wednesday,2nd March 1977

09.30	Opening of the conference (ENSCP lecture theatre B)
10.00	Mr Gobcart 'Languages for special purposes'
11.00	Dr. Strauss 'The conditions of communication'
12.00	Drinks
14.[illegible]	Professor Cherry (Imperial College, London) 'Human language: structure and meaning'
15.15	Dr. Axel Kahn (Hôpital Cochin) 'The necessity for precision'
16.00	Professor Agel (University of Montpellier) 'The language of the cinema' (with film)
17.00	Conclusion by Professor Benard

In practice, each of the different fields of modern life has developed its own particular language in an individual way, without being affected by the others. 'Etincelage', that is 'sparkling' in welding, is an example, as are 'training' and 'jogging', the meaning of which change greatly from one country to another (cf. the French National Institute of Sport), or 'Packaging Engineer'(cf. Honeywell). Thousands of pages have been scrutinized over the last few years in extending the lists of functional groups which have been included in the computerized word bank, in French, English, German and Russian. It should be mentioned here that the International Council for the French Language is also concerned with this kind of work.

The results of this research are useful in making recordings of texts based on frequencies for use in teaching.

In the field of public speaking, a comparative study is in progress on the semantic value and the intonation of a syntagm. An especially long and fruitful study on the differences in psychological approach to the same problem and the same situation by people of different nationalities has been carried out by : a) the comparative study of advertising on the same subject in the press of different countries.

b) the different attitude to the same situation of students of different nationalities wanting to learn the same language in the same situation.

The third main task is that of Comprehension. The study of chains of phonemes has allowed a statement of the sounds and localisations which will simplify the comprehension of any foreign language, whether the language is used as a medium, or is vernacular, mythical or referential (cf. Gobard's Tetraglossy) which stresses the selection of deliberately obscure terms.

The study of the form of questions is also still in progress, with

the problems of open, semi-closed and calculated questions being considered in particular from the point of view of the psychic attitude of the questioner. New elements have been added to the table contained in the booklet published at the beginning of the year, and, more particularly, it has become clear that there are grounds for combining it with the study of the duration of attention which has led to the development of the attention threshold. This research was undertaken in collaboration with the Imperial College laboratory.

The last main problem is that of methods of acquiring knowledge, and involves :

Participation in the Ministerial Commission for Methods of Teaching.

The establishment of criteria for the use of British Council tests.

Limits of the use of pictures.

Retraining of teachers in further education.

Practical exercises with visiting lecturers, such as systems of verification proposed by the lecturers, or the recording of lectures for use in frequency studies. Participants have included Professor Ramirez of Colorado and Professor Estrin of Princeton.

The development of courses for E.S.P.C.I., the Faculty of Science at Antony, E.N.S.C. at Lille, the Military School, etc.

In June,1977 the Centre organized in conjunction with other organizations, a reception for 700 American University teachers of French. The author himself gave a lecture on 'The Teaching of Communication through the Published. Printed and Broadcast Media'. The meetings were held under the auspices of the C.I.E.P. and the I.A.T.F. The Centre also welcomed the visit of Professor Wojnicki of the University of Warsaw, as well as that of a group of Australian professors.

The text of a letter from Inspector-General Morisset, received following publication of the latest book by the Centre is appended here by way of a conclusion.

Ministère de l'Education

Inspection Générale

In spite of two long and tiring tours, I have managed to read your most remarkable book. My professional commitments prevented me from giving it the leisured study it deserves. I should like to underline the most striking passages one by one, and there are many. You must have worked many times through the night to complete this exciting piece of work!

The main theme, which for a long time has been a personal concern of mine is extensively developed and functions as a leitmotif on each dense and invigorating page. Mr. Colin Cherry, a scientist, brings the subject up at the very beginning and dares to claim that there is no material difference between a scientific report and a work of literature. Further on, you refer to the great Pascal who, in order to gain access to people's spirits and hearts and to conform to "super-human necessities", extolled "gentle rather than tyrannical" persuasion as the only way to create solid contacts between those who send and those who receive a message; that is, to obtain both communication and communion at the same time.

From that most important starting point, you bring out clearly the primordial role of psychology, even in the driest of activities, including the vast field of languages, the tool of the privileged few, the writers, researchers, and especially teachers and inspectors whose responsbility is certainly more human than technical, being intensely warm and alive. You also remark

discerningly on the importance of the exchanges between man and man, language and language, and people and people, which can be multiplied indefinitely.

This theme draws some highly pertinent comments from you on the part played by travel, on the audio-visual system and its limits and on the dangers of intellectual haste, unavoidable in these days of rushing and lack of consideration, when it would be better to learn to hear and to listen, not with contempt but rather patience and humility.

Your experience during the last five years in your magnificent language laboratory in the Rue P. et M. Curie has naturally led you to speak of the teacher, his physical presence, his personality and enthusiasm, and the mutual trust which must be established between teacher and student, without which all true communication remains sterile.

From time to time you give precious hints on the different ways of commenting on a given text, which will vary depending on the motivation of your listeners, who may be just leaving secondary school or a group of young engineers.

As I turn the pages, I see a brilliantly humorous one where you discuss the power of the current invasion of signs, abbreviations, symbols and clichés; the infinite power of television and perhaps of the cinema,as well as the 'risks of the destruction of thought' with which we are threatened daily.

Later on,you analyse, in minute detail, the specific structures of languages for special purposes. You say you have studied ten technical languages and used 30,000 pages in your analysis. An enormous undertaking; but your shoulders are strong and your mind is clear.

Your researches continue and lead you to a fertile study of the influence of languages for specific purposes (almost all of them scientific) on grammar as it is taught today.

The reader, since Mr. Strauss is an indefatigable guide, gets fascinating glimpses of the learning and testing of knowledge as carried out by computer. This, you say, is "a long and difficult task". I am ready to take your word for it and I also believe that you book has a powerful originality because it combines in harmony the most modern techniques with the thoughts and meditations of the great thinkers of our history, such as Montaigne and Pascal - so old and yet so young! This,then, is a charmingly original book which will be a precious tool for the language teacher and which will occasion him much reflection. I hope, my dear Strauss, that your work will receive the welcome and achieve the fame that it and its author undeniably merit. With my sincere compliments and best wishes,

Yours faithfully,

Henri Morisset

IX. Individual Culture in 1976

When one of his students, speaking for the rest of the class, came and asked the author to write this article on 'Individual Culture in 1976', the suggestion was, at first, enthusiastically accepted. Later, however, it must be admitted that the vast number of problems raised caused some hesitation because, in attempting to condense the ideas as much as possible, there would be a danger of ambiguity, or, in trying to be too brief, of betraying the original conception. Nevertheless, an attempt will be made to express what appears to be essential in a few words. The subject will be approached from four different points of view, namely animal, material, intellectual and sentimental.

As an animal, man obeys his instincts for self preservation, and because of this, in the world of natural selection, may tend to behave like a savage beast in the jungle. A cultivated man is here aware of the physical differences, and attempts to ensure his survival, not by natural destruction, but, on the contrary by mutual help in all circumstances. The same approach will include in culture the awareness of man's physical limits from the point of view of the functioning of his organism, for the existence of illness and of suffering will be among the factors influencing the behaviour of a cultured person. In order to struggle against these difficulties and to satisfy the basic appetites which are essential for reproduction as well as to have enough to eat and drink, the opportunity for sleep and normal mental activity, certain material conditions are necessary.

The second part of this brief discussion is here reached with the claim that culture also entails the recognition of the right of all human beings to enjoy the material benefits of food, lodging and equality of opportunity. This first point requires clarification because, in fact, there can be no opportunity

of equality of opportunity as long as each person does not have the chance to develop fully, according to his capacities. Only on this condition can each person earn his rightful place in society, and in order to achieve this the problems of organisation, of structure and of material possibilities should be considered a necessary means, but only a means and not an end in itself.

Conscious of this necessity, and insofar as equality of opportunity exists, a cultivated man must do as much as possible to acquire the knowledge and know-how which will enable him to play his part in a positive way, both for himself and for others. In this sense, it will be seen that the acquisition and development of professional knowledge is not a cultural handicap, but rather, an indispensible condition for it.

The natural consequences of this is the diversity of personal identitites. It follows that only self respect and respect for others will be of use in defending this identity, and this mutual respect, in the opinion of the present writer, is the cornerstone of all culture. For this reason he, as a former manual worker, fails to understand the pleasure of certain young people when they can wear jeans, one pair as dirty as the next. He, on the contrary, remembers how happy he was when, on leaving the workshop, he was able to get rid of all that dirt. This is not a question of luxury or affluence, but simply of the desire to respect oneself and others. This leads naturally to the next aspect of culture, the intellectual one. Culture will now be considered from the intellectual point of view.

It was also a source of happiness to be able to open a book after a day's manual work, to read it peacefully and study it in detail. That, too, is culture. The fact is that reading books allows people to be in touch with others at a distance both of space and time. It ceaselessly forces people to question their own judgement, and the knowledge they have been able to

acquire. Thought of in this way, it is an undeniably enriching activity, through which it is possible to approach the intellectual aspect of cultivated man.

The attempt to understand others from a distance both in space and time is one of the most important elements in the concept of culture. This ceaseless effort encourages man's search for truth and makes him reject everything that falls short of complete intellectual probity, where all acts correspond to the mutual respect which is the foundation of culture. Of course, the search for truth is important in many different fields, and this is not the place to go into detail, but he who tries to understand and feels that he has made himself understood, achieves a degree of essential happiness from which all other satisfactions may spring.

It is true, none the less, that a cultivated man does not remain complacent as he may be disillusioned at any moment. Understanding is in vain if it is not accompanied by an ever renewed effort towards truth and practical justice. He must be able to modify his judgement of any situation or any person at any time. The evolution of people and objects allows no definitive or final judgement. The human limits imposed upon people by their own capacities do not authorize any absolute judgement. The judgement of a cultivated man has many reservations unless he finds himself faced with flagrant intellectual dishonesty. In any case, he will always be obliged to make comparisons, which leads in turn to the fourth aspect of culture, that is the sentiments of the cultivated man, thus accentuating what may, to many people, appear to be a weakness, and what to the author appears to be of great importance, that is, the quality of kindness. It is not necessary in the normal exchange of opinions to approach other people defensively or aggressively as happens so often nowadays. Listening to others is more important than listening to oneself. To be able to be of service without being obliged to, is a quality applicable

to all social levels. To say"I am working for you" betrays a despicable attitude. In fact, how could society survive if each of its members did not work for the others, and, in doing so, for himself? To understand this point logically is one thing, but to feel the human truth of it is quite another, and that is one of the characteristics of the cultivated man.

Such an attitude implies a great deal of indulgence towards others, and a great deal of severity towards oneself. However, this indulgence must be limited by the obligation not to let others do harm to themselves. That would no longer be an indulgence but cowardice, and that kind of courage is one of the qualities a cultivated man must possess. The obligation never to harm another is an absolute rule of reciprocity which is the basis of all culture, and it follows, on the level of feelings, that nothing is more serious than humiliating another. Some people, asked during a recent discussion, what the place of morality is in this theory and it may be answered that it is present in the attitudes and behaviour which have just been described, and in the spirit of mutual respect on which all culture is founded.

It should be added in conclusion that a cultivated man, while aware of his obligations and limits, and, in consequence, of his problems. will not depress others by seeking sympathy from those around him. A sad, solemn posturinghas never solved any problem, but a reasoned optimism is the condition of all progress and, as such, is the expression of a certain culture. Before ending it may briefly be added that, all thoughts and acts must necessarily be relative to each other on the one hand, and in themselves on the other. The complete meaning of culture may thus be approached by considering this awareness at each moment of every day as the pinnacle of all effort and striving.

X. THE UNITED STATES IN 1976

It is immensely difficult, in such a restricted space, to approach all the aspects of a country which is important not only in its size but also in the role it has played and will continue to play.

Readers, therefore, will not be displeased if the purely economic problems are disregarded here, so as to concentrate on explanations rather than statistics. If psychological problems are the result of an economic situation, it should not be forgotten that they are also the major cause. In all circumstances, they are among the factors giving rise to success or failure, so in this essay everything which can be expressed in figures will be omitted in order to explain the actions and reactions of this great and affectionate people.

To give a better understanding, some historical facts should first be noted. After the bitter struggles of the founding of the first colonies, the arrival of the Pilgrim Fathers is of great interest, for their landing is symbolic of what the United States have been for so many others after them: a haven in which man's rightful liberty is assured. If liberty, however, is the condition of all human life worthy of the name, it gives rise, at the same time, to a great many problems. What, in fact, are its limits? Where must the line be drawn? As liberty is considered to be the main reason for the existence of the United States it is preserved there at any price, but at the time of the founding of New England, the necessary limits to the excesses that might result from liberty could be imposed by puritanism. Puritanism recurs throughout the history of the American people. The need for integrity and uprightness is felt each time the country is threatened with corruption at any level. A good example of this in everyday life can be seen among the inhabitants of small villages. Although Europeans commonly assume that America consists entirely of sky-scrapers, an enormous number of people live

hidden away in small wooden houses in the depths of the countryside, and there the absence of shutters on the windows is striking, for it allows passers-by to see that nothing untoward is happening inside the dwelling. The Watergate affair also shows this effect of puritanism, for it became a veritable campaign of purification of the nation.

Having mentioned the freedom of thought, another apsect of liberty should also be invoked, that of freedom of action. Here the period of the Gold Rush must be remembered, as well as the later adventures of those who went out to make their fortune. Again, the very concept of liberty was in danger; it had to be preserved without damaging the chances of the unsuccessful. In fact, 'success' is one of the key-words of the American way of life, and for that reason, over the many years of struggle, the American Constitution was born with liberty the high point of its structure.

The struggle for liberty, which was present from the beginning, is, on several different levels, also part of daily life, just as puritanism is. Before going on to discuss this point, it is to be remarked, by way of a digression that the origins of Christopher Columbus are those of a refugee. There is also a phenomenon often known as the American paradox which is exemplified by the contrast between the ultra-modern telecommunications equipment of one town and the primitive installations of another. It is precisely a result of the concept of liberty which allows that such networks survive. Another example of the consequences of liberty is the fact that some companies distribute stamps with automatic vending machines and, to the surprise of the foreigner, the price is higher than the stamp's face value. Nevertheless, this is a profitable enterprise. In the same way, telegraphy is still controlled by private companies such as Western Union and, because of this, it is not possible to send a telegram from an ordinary post office. The Crime Syndicate is only one of many examples of this.

Politically speaking, lobbies are of great importance, and are justified by the selfsame conception of liberty, which results in a great many paradoxes. Thus the trade unions guarantee the rights of the 'blue-collar workers' by the operation of the 'closed shop' under which a man cannot work unless he is a member of the union. This means that trade union leaders have indirect control of the country's economic policy. A company whose workers belong to a minority union may find itself deprived of deliveries and would have to accept the consequences. Many examples could be cited to show how the most powerful unions support either the Democrats or the Republicans, according to circumstance.

As for the racial problem, if such exists between the blacks and the whites, it also exists within those groups for both are reluctant to accept new arrivals, and tend to force them back into yet smaller groups.

All this explains the mobility of the American people, certain of the fact that there can be no problem without a solution. Originally, going back in history, the pioneers, in a spirit of adventure, went further and further west. Their courage, their sense of initiative and their responsibility towards their compatriots are still much admired. To be a descendant of a pioneer is considered an important title, as can be understood simply by observing the wheel, the symbol of the pioneer spirit at the entrance to certain American farms. The same wheel, the same symbol, can also be seen in the windows of supermarkets but without here conserving its full significance. Adventure in 1976 no longer has the same quality: it often consists of attempting to improve the conditions of life but it does not include the same number of attendant risks. It is not unusual for a state to install large advertisement hoardings at its borders to publicize the tax reductions accorded to those who come to live there, and that is why whole factories are emptied to be set up again elsewhere, together with their personnel. The empty building is known

as a 'ghost plant'. Later,the building will become the source of solutions to other problems, and may be used as pre-fabricated decor for the making of a film.

The infinity of solutions in a world where liberty is more important than anything else also applies to education. If children are allowed to develop freely in High Schools where only a moderate effort is necessary, the accent at University is placed, on the contrary, on the obligation each citizen has to develop his natural qualities to the full. Sinclair Lewis's formula 'work hard, play hard' remains true. The universities are extremely selective, and their diplomas, as well as those of the most famous institutions are only obtained by great efforts,sometimes under-estimated by the European. To be convinced of this it is only necessary to read letters the author receives from those of his students who obtain research grants in the United States (where, it is hardly necessary to add, they succeed brilliantly). It is not unusual for groups to ask for extra lessons, and cheating at examinations is non-existant, precisely because of the competition, which, finally, has also eliminated politicization. So that diplomas can preserve a true market value, the abuse of university gradings is avoided, and the over-supply if Ph.D's of a few years ago should not be repeated.

However, the hard struggle of work is complemented by the distractions necessary to preserve a good equilibrium. One has merely to think of the organisation of 'blind dates', the associations of all kinds and the part played by sport, which all help to develop a respect for others. That is the corner-stone of American social life : a respect based not only on the value of each individual, but also on his membershipof a group. This sense of belonging often seems unusually important to a European, but it should not be under-estimated. What was said about the membership of trade unions

is also true for the membership of intellectual, religious or other groups.

As was said at the outset, the object of this essay was to examine the different elements which might contribute to the American psychological pattern in 1976. Economic problems as such will not be considered and the author is far from thinking he has dealt with all the aspects of the problem. He will consider that part of his task has been accomplished if he has been able to help his readers towards a better understanding of that great and friendly people who attempt, throughout all changes of fortune, to preserve the full meaning and significance of the statue of Liberty, which stands in New York to welcome all trans-Atlantic visitors.